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ABSTRACT

The purpose of this paper is to present a general overview of the nature of and the need for accountability in educational communication. To clarify the nature of a model that will facilitate accountability, a comparative analysis is constructed between a model for instructional design and a model for speech preparation. Detailed attention is devoted to specification of objectives--the key to educational accountability. Finally, the concepts of measurement and evaluation are discussed as they relate to design and accountability in education. (Author/LG)

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ACCOUNTABILITY IN COMMUNICATION AND LEARNING

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INTRODUCTION

All education is communication of a message whether the medium be oral, audio tape, video tape, audio-video tape, film, or print; the educational system is a communication system. In the guise of instruction, educational systems serve as one of the largest change agents in our country. Because the purpose of classroom instruction is stated as instruction rather than persuasion the message is accepted more readily than if the purpose were stated as persuasion. (Hovland, Janis, and Kelley, 1953). Consciously, the educational system exerts a tremendous influence in transmitting information which produces change but the system unconsciously, by the nature of its structure, perpetuates values of the American industrial society such as punctuality, docility, and unquestioning respect for authority. (Silberman, 1970). Possessing this tremendous influence and potential for influence, we as educators are only slightly aware of what goes on in the classroom in measurable terms and when we do measure, only measure in relation to a few specified outputs rather than assessing the influence of the whole system.

This paper is devoted to a discussion of the nature of and need for educational accountability. Included in the discussion is the presentation of a strategy for design of instructional systems paralleling the model for traditional speech preparation. Detailed attention is devoted to specification of objectives--the key to educational accountability. A general discussion of the related concepts of measurement and evaluation conclude the paper.

ACCOUNTABILITY

Just as business and industry engage in quality control and guarantee their product, so must we in education be accountable for the quality of our product in terms of what the student actually knows and what skills he possesses. Educational accountability requires not only the traditional cost accounting of business management but more importantly quality control over the nature of the product.

In most fields, the professional earns his salary by producing results through carrying out his assigned duties with at least minimal acceptable competence. But in education there exists the quality of a never-never land fantasy which Deterline (1971) describes in the following manner:

> ...You are the professional, you are the competent person here, and the students are dependent upon you. Yet we won't hold you accountable if they fail to learn from you; we'll blame them. We will hold them accountable for any failures, deficiencies and incompetences in your teaching. And we will use the instructional setting as a screening device; if the students can not learn in spite of what goes on here, we will penalize them. Their records will show that their intelligence and motivation were not enough; and sometimes those records will haunt them, and affect their careers, and their lives. You will not be affected in any way. You are not accountable for the results of your activities.

This never-never land fantasy is slowly beginning to disappear in education but in order to shift from the educational fantasy world in which so many of us operate, we must be willing to specify in measurable terms what we are doing and be responsible for the results of our actions. Accountability requires a systematic approach to educational design accompanied by specification of outcomes followed by evaluation.

STRATEGY FOR DESIGN

The approach to educational design that is suggested in this paper closely parallels the traditional strategy for speech or message preparation.

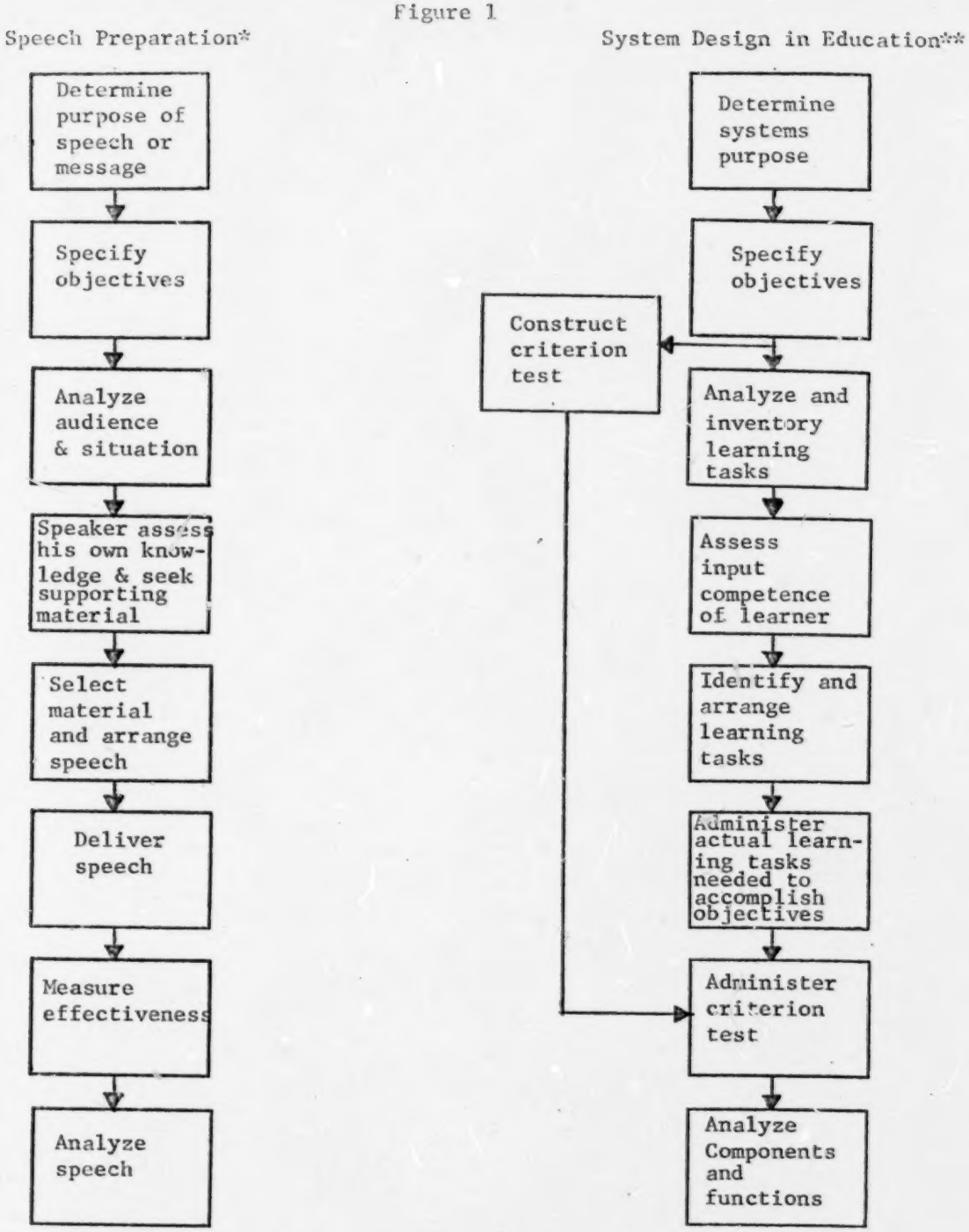
Insert Figure 1

Figure 1 provides a graphic representation of a model for design of instructional systems and a model for speech preparation. By comparing the model for speech preparation with the model for instructional design, one should develop a clearer concept of how to design an instructional system to facilitate accountability.

1) The first step in both models is the statement of purpose. In speech preparation the speaker usually states which of the major functions of speaking--persuasion, information, or entertainment--he is attempting to accomplish. The statement of purpose in instructional design is a general statement of the nature of learning that the system is designed to accomplish.

2) The specification of objectives in speech preparation usually takes the form of a thesis statement including the nature of the response desired from the audience. The objectives in instructional design are much more explicit than in speech preparation stating precisely what the nature of the learner will be when he has accomplished the objective. Since the specification of objectives is the key to educational design, this concept is discussed in detail in the following section of the paper. Once the objective is specified it is possible to determine what criterion

Figure 1


Speech Preparation*
Determine purpose of speech or message
Specify objectives
Analyze audience & situation
Speaker assess his own knowledge & seek supporting material
Select material and arrange speech
Deliver speech
Measure effectiveness
Analyze speech
System Design in Education**
Determine systems purpose
Specify objectives
Construct criterion test
Analyze and inventory learning tasks
Assess input competence of learner
Identify and arrange learning tasks
Administer actual learning tasks needed to accomplish objectives
Administer criterion test
Analyze Components and functions

*Adapted from Brown, Ronald and Ralph G. Nichols, Practical Speechmaking.
**Adapted from Banathy, Bela. Instruction Systems.

measure or test will be used to measure whether or not the objective is met. The criterion measure is usually more structured and formalized in educational design than in speech preparation.

3) The third step in speech preparation involves analysis of the audience and situation to determine all the essential background information about the audience and the situation that might influence their reaction to the speech. The parallel stage in educational design involves analysis of all learning tasks to determine what the student needs to know to accomplish the objectives and the nature of the learning tasks that will facilitate learning.

4) Following analysis of the audience, the speaker assesses his own knowledge to determine what information he possesses that will provide the support he needs to meet his objectives. After assessing his own knowledge, the speaker seeks other outside supporting material. The comparable process in educational design involves assessing the prerequisite knowledge of the student relative to the objectives of the system, i.e. what does the student know already and what does he need to know.

5) Next, the speaker selects from his store of supporting materials the most appropriate material for the speech and arranges it in the order he will present it in his speech. Similarily, the educational designer identifies which of the learning tasks in the inventory are needed by the particular student and arranges

them in the order the student will be expected to accomplish them.

6) Following the above analysis and preparation, the speaker delivers his speech to an audience. Comparably, the educational designer administers the predetermined inventory of learning tasks needed by the student to accomplish the objectives.

7) After the speech has been delivered to the audience, the speaker usually tries to assess informally or formally how effective his speech was in accomplishing his objectives. Likewise, the educational designer measures his effectiveness by administering a criterion test to determine whether or not the student met the objective of the system.

8) Finally, the speaker analyzes his speech to determine what aspects of the speech contributed to his success or failure and determines how he can revise the speech for future occasions. Similarly, the evaluator of an educational system analyzes the components of the system to determine the nature of their function to the overall purpose of the system.

Although the design procedures closely parallel one another as would be expected since instruction is communication, in order to be accountable for our instruction, much more specification is needed than is traditionally employed in speech preparation. The specification requires statement of objectives in measurable terms with development of testing procedures to determine exactly what is learned in the system--both what was planned and what detrimental learning the system produced.

Rigorous specification has usually not been employed in practical public speaking because, in many instances, it is impossible to effectively measure and still preserve the ritualized speaking situation. Testing, however, has traditionally been a part of the instructional ritual. The testing has not occured as a part of an overall systematic assessment, nor has it been valid or reliable enough to assist in development and refinement of instruction systems but the precedent exists.

It is necessary to employ specification in instructional design, measurement, and evaluation if we are ever to reach a position where we feel comfortable being held accountable for our instruction and to know what our students are learning. However, traditional education, like traditional message development, has relied too much on subjective, impressionisitc observations of success rather than focusing on comprehensive objective assessment.

SPECIFICATION OF OBJECTIVES

Once the general purpose of the system is determined, the real work of specifying objectives begins. Mager (1962) states than an objective is "a statement of what the learner is to be like when he has successfully completed a learning program." In order to be accountable for our instruction we must specify objectives in terminology that reliably communicates what the student <u>does</u> under what <u>conditions</u> with what <u>standard of acceptability</u>. Without this specification it is impossible to measure our success or know that we are teaching anything or that our students are learning what we want them to learn. If we are teaching something that we cannot specify in a measurable objective, then according to

Mager (1962) we are in a very awkward position of being unable to demonstrate that we are teaching anything at all.

What the student does: The objective must specify as objectively as possible what the student is expected to do. The objective should specify what the student is doing such as writing, speaking, comparing, identifying, listening, etc.; rather than knowing, understanding, believing, enjoying, etc. It is necessary to specify objectives in observable terms or not measure at all until our measurement instruments allow us to define and assess mental states objectively.

Conditions of performance: As part of the objective, one must specify the important characterisitcs of the situation in which the learner will be demonstrating his competence. The conditions usually necessary to specify according to Mager (1962) are the givens, allowances, and restrictions, i.e. what conditions will you impose on the learner. Will he have certain aids or will he have to perform from memory, e.g. will he be able to use notes, have a complete manuscript, or will he not be permitted to use either notes or manuscript?

Acceptable standards of performance: The objective should include a statement of acceptable performance whether it be in terms of time to complete a task or number of correct responses or both. For example, an acceptable standard employing both time and number might be the following: to correctly arrange three random series of words into sentences within sixty seconds.

When the objectives are specified in the above manner it is easy to design the criterion test. Working directly from the objectives,it is

possible to determine what learning task or instruction the student needs to accomplish the objectives. By determining what objectives the student must accomplish before accomplishing another objective, it is a rather simple procedure to sequence the learning program. By asking yourself what does the student need to accomplish before he can accomplish the final objective and by working backwards to where the student is in terms of his present knowledge it is relatively easy to sequence the objectives for the learning program.

MEASUREMENT AND EVALUATION

In order to provide a comprehensive analysis of an instructional system,we need to measure the effect of various components of the system on the students in the system. Once we have measured various important variables,it is possible to evaluate the contributions of these variables to the overall purpose of the system. Evaluation based on comprehensive measurement allows one to improve the system to eliminate detrimental learning and increase the overall cost effectiveness ratio.

Measurement: Basically, what we measure, when we measure, and how we measure is determined by the purpose of the system and the statement of objectives. But measurement of the successful attainment of objectives is not enough for comprehensive analysis of the system. We also need to know about what is occuring in the system other than the students' learning of specific objectives.

Traditionally in education and communication we have focused on the pretest - post-test format of analysis. Students are pretested before

entering the system and post-tested after the completion of the program to determine how well they mastered the criterion. In communication, when we do measure, we have administered a questionnaire or attitude scale before the speech and employed a similar device after the speech. This format provided some data regarding the individual mastery of the subject matter or the effect of the speech but yet provided little data on what produced the effect, i.e. which of the many components of the instructional system or variables of the speech produced the observed response. In order to comprehensively measure the effect of a system, it is necessary to employ multivariate statistical analysis which permits us to measure numerous components as they relate to one another instead of treating the components of the instructional system or the speech as uncorrelated parameters.

Evaluation: Not only is objective assessment through measurement necessary but we must evaluate the results of the measurement. Evaluation is the judgmental process following measurement involving decisions as to the relative merit or worth, i.e. effectiveness of particular elments in the instructional system or the speech to the overall objective of the system or purpose of the speech. Evaluation cannot rely simply on collecting descriptive data: evaluation involves interpreting the descritive data and making decision regarding selecting, deleting, adding, or restructuring. Granted descriptive data based on measurement is a necessary and worthwhile goal, but it is not and should not be the primary goal of evaluation.

Current evaluation models generally reflect a shift in focus from assessment of whether specific objectives are obtained to an assessment

of a larger number of variables representing more comprehensively the actual communication and learning process. Sjorgren (1970) states: "Evaluation theorists indicate that evaluation should attend to outcomes other than specified objectives, to inputs or antecedent conditions, and to process or transactions." This current shift in focus recognizes the fact that variables other than the attainment or non-attainment of an objective are necessary for effectively judging the merits of a system. Input-process-outcome plans for evaluation place a focus not only on what is learned or communicated but how it is learned or communicated. This shift in evaluation recognizes the process nature of communication and learning. Instead of viewing assessment as the static measurement of objectives, attention to the process nature of communication and learning permits the evaluator to take into consideration more of the dynamic variables of the process. By taking into consideration more of the variables that are in a constant state of flux to evaluate their contributions to the entire process, the designer can more effectively improve the conditions that contribute to the overall development of the system.

SUMMARY

In order to approach comprehensive accountability in learning and communication, it is necessary to specify in measurable terms the objectives we intend to accomplish, measure the effect of the message or learning units that we transmit, and evaluate the effectiveness of the various components of the system to achieving the overall purpose of

the system as well as analyze the overall nature of the system to determine what detrimental effects we have produced. With the above knowledge of the nature of the system, we can refine and redesign the system as well as know what effects we are producing and be accountable for them not only in terms of cost to produce the effect but also in terms of the quality of the product we have produced.

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